UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,507	08/19/2003	Andrew Harker	871-011435-US / 30020759	5459

2512 7590 02/27/2004

PERMAN & GREEN
425 POST ROAD
FAIRFIELD, CT 06824

EXAMINER	
MARTINEZ, JOSEPH P	

ART UNIT	PAPER NUMBER
2873	

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/643,507	HARKER ET AL.	
	Examiner	Art Unit	
	Joseph P. Martinez	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8-20-03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (6297901) in view of Park (6055102).

Re claims 1, 3 and 10, Kim teaches for example, an arrangement or method including: a variable optical attenuator including a polarization rotation medium (optical attenuating filter 530, fig. 5), and an optical isolator including an optical rotator (Faraday rotator 540, fig. 5), said arrangement comprising an integrated variable optical attenuator and isolator assembly (col. 1, ln. 14-18).

However, Kim teaches in fig. 5 the use of an optical attenuating filter 530 followed by a Faraday rotator 540, without the use of polarizer following the optical attenuating filter 530. Furthermore, Kim is aware of the reduction of "the number of optical transmission media" (col. 5, ln. 25-26).

But Kim fails to explicitly teach a polarizer interposed between said polarization rotation medium and said optical rotator, whereby said polarizer is common to both said variable optical attenuator and said optical isolator.

However, within the same field of endeavor, Park teaches for example the use of an optical isolator comprising a Faraday rotator which is sandwiched between polarizers 7a and 7b.

Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to modify the optical attenuating isolator with the optical isolator comprising a Faraday rotator of Park and have a polarizer interposed between said polarization rotation medium and said optical rotator, whereby said polarizer is common to both said variable optical attenuator and said optical isolator in order to reduce the number of optical transmission media.

Re claim 2, Kim further teaches for example, an additional polarizer (polarizer 520, fig. 5) associated with said polarization rotation medium in said variable optical attenuator, whereby said polarization rotation medium is sandwiched between said additional polarizer and said polarizer common to said variable optical attenuator and said optical isolator.

Re claims 4 and 5, Park further teaches for example, optical rotator has associated a magnet (magnet 2, fig. 1) with an opening (orifice 3, fig. 1) for locating said Faraday rotator (Faraday rotator 4, fig. 1), wherein the Faraday rotator is a garnet material (col. 4, ln. 7).

Re claim 6, Kim teaches the arrangement as disclosed above, including the use of a polarization rotation medium (optical attenuating filter 530, fig. 5).

But, Kim fails to explicitly teach the use of a polarization rotation medium which includes a liquid crystal cell.

However, it is well known in the art of optical attenuators to provide a liquid crystal cell to attenuate light.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a liquid crystal cell to attenuate light in order to reduce the cost of manufacturing.

Re claim 7, Park further teaches for example, a Faraday rotator material and a means for generating a magnetic field through said Faraday rotator material.

But, Park fails to explicitly teach the means for generating a magnetic field is a solenoid.

However, it is well known in the art of Faraday rotators to provide a solenoid as the means for generating a magnetic field.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a solenoid as the means for producing a magnetic field in order to reduce the cost of manufacturing.

Re claim 8, Kim further teaches for example, the polarization rotation medium and said common polarizer connected in optical alignment (fig. 5, wherein the office interprets the optical transmission media to be optically aligned in order to properly function).

Re claim 9, Park further teaches for example, the optical rotator having connected therewith an output polarizer (polarizer 7b, fig. 1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph P. Martinez whose telephone number is 571-272-2335. The examiner can normally be reached on M-F 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
2-5-04